



**INTERNATIONAL TRUCK AND ENGINE  
CORPORATION**

**EXECUTIVE ORDER A-004-0309**  
New Engines for Diesel or Incomplete  
Medium-Duty Vehicles

**AIR RESOURCES BOARD**

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-45-9;

**IT IS ORDERED AND RESOLVED:** The engine and emission control systems produced by the manufacturer are certified as described below for use in diesel or incomplete medium-duty vehicles with a manufacturer's GVWR from 8501 to 14000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	EMISSION STD CATEGORY <sup>2</sup>	FUEL TYPE <sup>1</sup>	STANDARDS & TEST PROCEDURE	ENGINE SIZES (L)	ECS & SPECIAL FEATURES <sup>3</sup>		OBD COMPLIANCE
			Diesel			Diesel	6.4	DDI, TC(2), CAC, ECM, EGR, OC, PTOX
2007	7NVXH06.4AGC	ULEV						
ENGINE MODELS / CODES (rated power, in hp)							ENGINE (L)	OBD COMPLIANCE
A350 / A350 (350)							6.4	OBD(P)
*							*	*
*							*	*
*							*	*
*							*	*

\* =not applicable; GVWR=gross vehicle weight rating; 13 CCR xyz=Title 13, California Code of Regulations, Section xyz; 40 CFR 86.abc=Title 40, Code of Federal Regulations, Section 86.abc; (2006 Dec21)

<sup>1</sup> L=liter; hp=horsepower; kw=kilowatt;

<sup>2</sup> CNG/LNG=compressed/liquefied natural gas; LPG=liquefied petroleum gas; E85=85% ethanol fuel; MF=multi fuel a.k.a BF=bi fuel; DF=dual fuel; FF=flexible fuel;

<sup>3</sup> SULEV / ULEV / LEV=super ultra / ultra / low emission vehicle;

ECS=emission control system; TWO/OC=three-way/oxidizing catalyst; WU (prefix)=warm-up catalyst; DPF=diesel particulate filter; PTOX=periodic trap oxidizer; HO2S/O2S=heated/oxygen sensor; HAFS/AFS=heated/air-fuel-ratio sensor (a.k.a., universal or linear oxygen sensor); TBI=throttle body fuel injection; SF/MFI=sequential/multi port fuel injection; DG=direct gasoline injection; GCARB=gaseous carburetor; ID/DDDI=indirect/direct diesel injection; TC/SC=turbo/super charger; CAC=charge air cooler; EGR=exhaust gas recirculation; PAIR/AIR=pulsed/secondary air injection; SPL=smeoke puff limiter; OBD(F) / (P) / (\$) =full / partial / partial with a fine / on-board diagnostic; ECM/PCM=engine/powertrain control module; EM=engine modification; 2 (prefix)=parallel; (2) (suffix)=in series;

...limit(s) as applicable under 13 CCR 1956.8;

Following are: 1) the FTP exhaust emission standards or family emission limit(s) as applicable under 13 CCR 1956.8; 2) the EURO and NTE limits under the applicable California exhaust emission standards and test procedures for heavy duty diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, in g/bhp-hr, for this engine family. "Diesel" CO, EURO and NTE certification compliance may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For dual- and flexible-fueled engines, the CERT values in brackets [ ] are those when tested on conventional test fuel.)

	NMHC		NOx		NMHC+NOx		CO		PM		HCHO	
	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO
STD	0.14	0.14	*	*	*	*	14.4	14.4	0.01	0.01	0.050	0.050
FEL	*	*	*	*	1.3	1.3	*	*	*	*	*	*
CERT	0.06	0.004	*	*	1.2	0.9	1.6	0.03	0.001	0.000	0.009	0.005
NTE	0.21		*		1.95		18.0		0.015		0.075	

\* as provided under the applicable test conditions (see Table 1 for details).  
 FTP=Federal Test Procedure; EURO=European Steady-State Cycle; NTE=Not-to-Exceed emission limit; STD=standard or emission test  
 FEL=Fuel Economy Limit; NMHC=non-methane hydrocarbons; NOx=nitrogen oxides; CO=carbon monoxide; HCHO=formaldehyde.

NTE	0.21	1.95	18.0
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g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; EURO=Euro III European Steady-State Cycle; NTE=Not-to-Exceed emission limit; STD=standard or emission test cycle; FEL=family emission limit; CERT=certification level; NMHC/HC=non-methane hydrocarbon; NOx=oxides of nitrogen; CO=carbon monoxide; PM=particulate matter; HCHO=formaldehyde; <sup>4</sup> If the engine is not covered by the above table, the applicable emission limit is subject to the following term:

**BE IT FURTHER RESOLVED:** Certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

**BE IT FURTHER RESOLVED:** The listed engine models have been certified to the optional emission standards and determining compliance of any engine in this family and compliance with such ADEP program test procedures in 13 CCR 1956.8 applicable to diesel or incomplete medium-duty vehicles with a GVWR from 8501 to 14000 pounds and, therefore, shall be subject to 13 CCR 2139(c) (in-use testing of engines certified for use in diesel or incomplete medium-duty vehicles with a 8501-14000 pound GVWR).

**BE IT FURTHER RESOLVED:** The listed engine models have been certified to the split engine family standards under 13 CCR 1956.8(b) [DIESEL] or (d) [OTTO] and the incorporated 40CFR 86.007-15(m)(9).

**BE IT FURTHER RESOLVED:** For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels), 13 CCR 1968.2 (on-board diagnostic, full or partial compliance), and 13 CCR 2035 et seq. (emission control warranty).

**BE IT FURTHER RESOLVED:** The listed engine models have been certified on the condition that the manufacturer provide all the on-board diagnostic data required by 13 CCR Section 1968.2(h)(2.4) by March 12, 2007. Failure to submit the required demonstration data by the specified date, or failure of the submitted demonstration data to show compliance with the test procedures, shall be cause for the Air Resources Board to revoke this Executive Order and engines sold under the revoked conditional certification shall be deemed uncertified.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this 25 day of January 2007.

Annette Hebert, Chief  
Mobile Source Operations Division